

STUDIES OF MEXICAN AND CENTRAL AMERICAN PLANTS -- III (a)

C. L. Lundell

Of the six novelties described, two are from the writer's 1936 collections on the Carnegie-Michigan expedition to British Honduras. The other four were discovered in the highly interesting and valuable Mexican collections of Mr. Eizi Matuda and Professor C. Conzatti. All the specimens cited are in the Herbarium of the University of Michigan.

PICRAMNIA MATUDAI Lundell, sp. nov.

Arbor, ramulis, petiolis, et pedunculis dense fulvopubescentibus. Folia magna, 25--45 cm. longa; foliolis 3--9, alternis, ovatis, lanceolato-oblongis, vel lanceolato-ellipticis, 10--18.5 cm. longis, 4.2--6.8 cm. latis, apice acuminatis, acumine obtuso vel acutiusculo, basi rotundatis, obtusis, vel cuneatis, supra glabris, subtus fulvopubescentibus; petiolulis crassis, dense pubescentibus, 4--5.5 mm. longis. Inflorescentiae axillares, 15--25 cm. longae. Flores masculi glomerato-racemosi, glabri; pedicellis 1--1.2 mm. longis. Sepala 3, raro 4, latissime ovata vel ovato-orbicularia, 1.3--1.8 mm. longa, integra vel eroso-dentata. Petala 3, raro 4, oblonga vel oblanceolato-oblonga, 2--2.3 mm. longa. Stamina 3, raro 4, 3.5--3.9 mm. longa; filamentis crassis. Flores femineos non vidi. Fructus obovoideus, ca. 1.5 cm. longus.

A tree with fulvous and copiously pubescent twigs, petioles, and peduncles; leaves large, fulvous, as much as 45 cm. long; leaflets somewhat inequilateral at base, alternate, subcoriaceous, 3 to 9, the lower ones ovate, the upper ones lanceolate-oblong or lanceolate-elliptic, 10 to 18.5 cm. long, 4.2 to 6.8 cm. wide, apex acuminate, the acumen obtuse or acutish, base of lower leaflets rounded, base of upper leaflets obtuse to cuneate, glabrous above, persistently pubescent beneath, costa and lateral nerves nearly plane above, prominent beneath: petiolule thick, densely pubescent, 4 to 5.5 mm. long; inflorescence axillary on old wood, the rachis simple, 15 to 25 cm. long, densely fulvous-pubescent; staminate flowers glomerate-racemose, glabrous; pedicels 1 to 1.2 mm. long; sepals 3, rarely 4, broadly ovate or ovate-orbicular, 1.3 to 1.8 mm. long, entire or erose-dentate; petals 3, rarely 4, oblong or oblanceolate-oblong, 2 to 2.3 mm. long; stamens 3, rarely 4, 3.5 to 3.9 mm. long, the filaments thick; fruits glabrous, obovoid, about 1.5 cm. long; fruiting pedicels 2 to 3 mm. long, pubescent.

Type in the Herbarium of the University of Michigan, Eizi

Matuda 428, collected on Mt. Orando, Chiapas, Mexico, December 17, 1936.

P. Matudai is a well-marked species distinguishable at once from the other species with three-parted flowers by its large pubescent leaves and axillary inflorescences borne on old wood.

Notes on the species of Exothea

Heretofore only two species have been known in the genus Exothea. The widespread E. paniculata (Juss.) Radlk. occurs in Florida, the West Indies, and Central America. E. copalillo (Schlecht.) Radlk. is restricted apparently to southern Mexico. E. diphylla (Standl.) Lundell, an endemic tree in the Yucatan Peninsula, is also referable to the genus. The three species may be satisfactorily separated as follows:

Leaflets 2; petioles less than 1 cm. long.....1. E. diphylla
 Leaflets 2 to 8 (usually 4); petioles generally
 more than 2.5 cm. long.

Leaflets entirely glabrous.....2. E. paniculata
 Leaflets barbate beneath in the axils of
 the nerves.....3. E. copalillo

1. EXOTHEA DIPHYLLA (Standl.) Lundell, comb. nov.

Talisia diphylla Standl., Field Mus. Bot. 8: 21. 1930.

A tree reaching a height of 20 meters; flowers white. Occasional in sapodilla forest, and in marginal forest surrounding pine lands; endemic in the Yucatan Peninsula.

Specimens examined: MEXICO: Campeche: Tuxtepec, Lundell 1347. BRITISH HONDURAS: Corozal District: Gentle 646. Belize District: Maskall Pine Ridge, Gentle 1147; vernacular name "wild kenep".

The flowers of E. diphylla are very similar in structure, size and pubescence to the flowers of E. paniculata and E. copalillo. In fact, the flowers of all three species are strikingly alike.

2. EXOTHEA PANICULATA (Juss.) Radlk.

A medium-sized tree reaching a diameter of 30 cm.; bark smooth and gray; flowers cream-colored; fruits reddish-brown. Occasional in forest; Florida, West Indies, British Honduras, and Guatemala.

Specimens examined: FLORIDA: No Name Key, J. H. Simpson in 1891. Without locality, A. P. Garber in 1877. WEST INDIES: Bahamas: New Providence, Wm. Cooper 1 in 1859. BRITISH HONDURAS: Toledo District: Pueblo Viejo, Schipp 1263; Camp 32, British Honduras-Guatemala boundary survey, Schipp 1266.

GUATEMALA: Department of Petén: Uaxactun, Bartlett 12230, 12560. Department of Santa Rosa: Malpais, Heyde and Lux (Donnell Smith 6294).

3. *EXOTHEA COPALILLO* (Schlecht.) Radlk.

A medium-sized tree; flowers white. In forest, Vera Cruz, Jalisco, and San Luis Potosí.

Specimens examined: MEXICO: Jalisco: Santa Cruz de Vallarta, Mexia 1249. Vera Cruz, Purpus 15240.

MELIOSMA MATUDAI Lundell, sp. nov.

Arbor glabra. Folia coriacea, integra, petiolis 6--10 mm. longis; laminis anguste lanceolato-oblongis, 7--12 cm. longis, 1--1.9 cm. latis, apice acuminatis, base longe acuminatis. Inflorescentiae terminales, paniculatae, 6--11.5 cm. longae. Pedicelli 1--3.5 mm. longi. Sepala 5, inaequalia. Petala 5, inaequalia, 3 exteriora suborbicularia, ca. 2 mm. longa, 2--3 mm. lata, 2 interiora minuta, bifida, puberula. Staminodia 3. Stamina 2. Discus ovarium subaequans, margine denticulis linearibus obsitus. Ovarium 2-loculare. Stylus ovarium subaequans.

A tree, glabrous throughout; branchlets slender; leaves clustered at apices of branchlets, subopposite, coriaceous; petioles slender, 6 to 10 mm. long; leaf-blades very narrowly lanceolate-oblong, 7 to 12 cm. long, 1 to 1.9 cm. wide, entire, apex acuminate, base long-acuminate, costa prominent on both surfaces, reticulate-veined, paler beneath; inflorescence terminal, paniculate, 6 to 11.5 cm. long; flowers pedicellate, the pedicels 1 to 3.5 mm. long; prophylla oblong-elliptic, about 1 mm. long, ciliolate, deciduous very early; sepals 5, unequal, ciliolate, the outer 2 broadly ovate, the inner 3 suborbicular, larger, about 1.4 mm. long; petals 5, unequal, the 3 outer (opposite the staminodia) depressed-orbicular, about 2 mm. long, 2 to 3 mm. wide, the 2 inner (adnate to base of fertile filaments) minute, deeply bifid, puberulous; fertile stamens 2; anthers longitudinally dehiscent; disk thin, nearly equaling ovary in length, bearing slender linear teeth; ovary glabrous, 2-celled; style glabrous, equaling or slightly exceeding ovary in length; stigmas connate.

Type in the Herbarium of the University of Michigan, Eizi Matuda 526, collected on Mt. Orando, Chiapas, Mexico, December 19, 1936.

M. Matudai is closely related to *M. idiopoda* Blake from which it differs obviously in having smaller and much narrower leaves and glabrous panicles. It appears to be related to *M. oaxacana* Standl. also, but may be distinguished readily from that species by its much smaller flowers, narrower

leaves, and the absence of pubescence.

SOUROUBEA TRIANDRA Lundell, sp. nov.

Frutex epiphyticus, glaber, 5-metralis. Folia subcoriaceae, petiolis 4--8 mm. longis; laminis oblanceolatis vel oblanceolato-obovatis, 5.5--10.5 cm. longis, 2--4 cm. latis, apice rotundatis vel obtusis, minute apiculatis, basi cuneatis. Inflorescentiae terminales, racemosae, 8--16 cm. longae, ca. 2.2 cm. latae, multiflorae, pedicellis 7--9 mm. longis; bractea sub calyce inserta, tubuloso-cylindrica, 8--10 mm. longa, breviter stipitata; ostiolo lateraliter breviter 2-auriculato; bracteolis 2. Sepala 5, suborbicularia, 1.2--1.8 mm. longa. Corolla ca. 4.5 mm. longa, ad mediam partem gamopetala, lobis 3 vel 4, apice obtusis. Stamina 3 vel 4, filamentis crassis, ca. 2.1 mm. longis, basi complanatis, intus ad corollae basin applicatis, margine inter se contiguis, apice attenuatis; antheris ovato-cordatis, ca. 1 mm. longis. Ovarium 3- vel 4-loculare.

An epiphytic shrub 5 meters high, glabrous throughout; branchlets slender, 2 to 3 mm. in diameter; leaves subcoriaceous; petioles canaliculate, 4 to 8 mm. long; leaf-blades oblanceolate or oblanceolate-obovate, 5.5 to 10.5 cm. long, 2 to 4 cm. wide, apex rounded or obtuse, minutely apiculate, base cuneate, costa prominent beneath, the primary nerves inconspicuous; inflorescence terminal, erect, racemose, 8 to 16 cm. long, about 2.2 cm. wide, many-flowered; pedicels slender, 7 to 9 mm. long; bract tubular-cylindrical, 8 to 10 mm. long, suspended obliquely from base of calyx, short stipitate (the stipe about 1.8 mm. long or shorter), the aperture laterally 2-auriculate, the auricles very short; bracteoles 2, ovate-orbicular, about 1.2 mm. long, closely appressed to calyx; sepals 5, suborbicular, 1.2 to 1.8 mm. long, imbricate; corolla about 4.5 mm. long, 3- or 4-lobed to the middle, splitting irregularly at anthesis and reflexed, the lobes obtuse; stamens 3 or 4, attached to base of corolla; filaments thick, broad and flattened below with the margins touching, narrowed above, about 2.1 mm. long (including portion adnate to corolla); anthers ovate-cordate, obtuse, about 1 mm. long; ovary 3- or 4-celled, ovoid; stigma sessile.

Type in the Herbarium of the University of Michigan, C. L. Lundell 6492, collected in advanced forest on limestone hill near Cohune Ridge, El Cayo District, British Honduras, July 13, 1936.

Additional specimens examined: GUATEMALA: Puerto Barrios, Dean 6020.

S. triandra is remarkable in having flowers with corolla 3- or 4-lobed, 3 or 4 stamens, and ovary 3- or 4-celled. As far as the writer has been able to determine from published

descriptions and dissections of flowers, all the other species known in the genus regularly have 5-parted flowers. In both the type collection and the Deam collection, the flowers of S. triandra consistently differ in this respect. A majority of the flowers have only 3 corolla lobes, 3 stamens, and a 3-celled ovary. The bract is typical of the genus.

S. triandra is closely related to S. exauriculata Delp. Aside from the floral differences already mentioned, it may be distinguished further from that species in its much smaller flowers, glabrous inflorescence, narrower leaves, short-stipitate bract attached at base of calyx, and in other noteworthy characters.

The Deam collection from Puerto Barrios, Guatemala, was identified by J. Donnell Smith as Ruyschia mexicana Baill., a species regarded as a synonym of S. exauriculata by Wittmack (Fl. Bras. 12: 254. 1879) and by Hemsley (Biol. Centr. Amer. Bot. 1: 92. 1879). In the original description of R. mexicana, the flowers are described as having 5 stamens and a 5-celled ovary, hence S. triandra differs in those important and in other minor characteristics.

RUYSCHIA ENERVIA Lundell, sp. nov.

Frutex epiphyticus, glaber, 3-metralis. Folia coriacea, oblanceolata vel oblanceolato-oblonga, 8--12 cm. longa, 2--4.2 cm. lata, apice obtuso-apiculata, basi obtusiuscula vel rotundata, costa planiuscula, nervis lateralibus inconspicuis; petiolis 3--8 mm. longis. Inflorescentiae terminales, racemosae, pauciflorae, ca. 8 cm. longae, glabrae, pedicellis 3--4.5 mm. longis; bractea sub calyce inserta, intus convexa, extus complanata, tumida, apiculata, 3--4.5 mm. longa, 3--4 mm. lata, ca. 2 mm. crassa; bracteolis 2. Sepala 5, coriacea, imbricata, suborbicularia, 4--4.5 mm. lata, 2--2.5 mm. longa, apice rotundata. Petala 5, imbricata, coriacea, libera. Stamina 5, filamentis basi complanatis, lanceolatis, intus ad corollae basin adnatis. Ovarium subglobosum, 5-costatum, 2-loculare.

A glabrous epiphytic shrub 3 meters high; branchlets 3 to 5 mm. in diam.; leaves coriaceous, opaque, oblanceolate or oblanceolate-oblong, 8 to 12 cm. long, 2 to 4.2 cm. wide, apex obtuse-apiculate, base obtusish or rounded, costa plane or nearly so, the lateral nerves invisible beneath, absent or faintly visible above, glands few and scattered, margin revolute; petioles canaliculate, stout, 3 to 8 mm. long; inflorescence racemose, terminal, few-flowered, about 8 cm. long, glabrous; pedicels stout, 3 to 4.5 mm. long; bract attached at base of calyx, subsessile, solid, convex inside, flattened or slightly concave outside (resembling bract of R. clusiaefolia), apiculate, 3 to 4.5 mm. long, 3 to 4 mm.

wide, as much as 2 mm. thick; bracteoles 2, coriaceous, depressed-orbicular, about 3 mm. wide, 1.6 mm. long, apex rounded, appressed to calyx; sepals 5, coriaceous, imbricate, suborbicular, 4 to 4.5 mm. wide, 2 to 2.5 mm. long, apex rounded; petals 5, imbricate, coriaceous, free, (in mature unopened buds ovate-elliptic, about 6 mm. long, 3.9 mm. wide); stamens 5, adnate at base of corolla; filaments (in unopened buds) flattened, lanceolate, about 1.2 mm. wide at base, narrowed above; ovary subglobose, 5-ribbed, 2-celled, the ovules numerous; stigma subsessile, capitate.

Type in the Herbarium of the University of Michigan, C. L. Lundell 6308, collected in advanced forest on the Valentin-Retiro road, El Cayo District, British Honduras, June 30, 1936.

R. enervia is a noteworthy species related to R. clusiae-folia Jacq. of the West Indies and South America from which it differs in having inconspicuously nerved oblanceolate-oblong leaves, much shorter racemes, shorter pedicels, and a capitate stigma.

As far as the writer has been able to determine, this is the first Ruyschia known from continental North America. The species previously reported as belonging to Ruyschia are referable to Souroubea.

MYRTUS MATUDAI Lundell, sp. nov.

Frutex ramosissimus. Folia coriacea, petiolis 3--5 mm. longis; laminis ellipticis, 1.5--3 cm. longis, 0.6--1.3 cm. latis, apice acutis vel breviter acuminatis, basi acutis. Flores ad axillas solitarii. Pedicelli 10--13 mm. longi. Prophylla sub calyce inserta linearia 4--7 mm. longa. Calyx ca. 6 mm. longus, 5-partitus; lobis lanceolatis, 3--4 mm. longis, acuminatis. Petala orbicularia, 3.9--4.5 mm. longa. Ovarium 3-loculare.

A much-branched shrub; branchlets slender, covered with whitish hairs; leaves coriaceous; petioles 3 to 5 mm. long; leaf-blades elliptic, 1.5--3 cm. long, 0.6--1.3 cm. wide, apex acute or short-acuminate, base acute, costa impressed above, prominent beneath, the lateral nerves inconspicuous, glabrous above, paler beneath and at first sparsely pubescent with appressed whitish hairs, punctate, revolute; flowers solitary, axillary; pedicels slender, 10 to 13 mm. long, hairy; prophylla linear, 4 to 7 mm. long, sparsely pubescent beneath; calyx glabrous or nearly so, about 6 mm. long, 5-lobed, the lobes lanceolate, 3 to 4 mm. long, acuminate; petals orbicular, 3.9 to 4.5 mm. long; ovary 3-celled; styles slender, glabrous, about 5 mm. long.

Type in the Herbarium of the University of Michigan, Eizi Matuda 459, collected on Mt. Pasitar, Chiapas, Mexico, December 29, 1936.

Additional specimens examined: MEXICO: Chiapas, Mt. Oran-do, Matuda S-3.

M. Matudai may be distinguished from M. montana Benth. and related species by its long linear prophylla and long calyx-lobes.

JACQUINIA CONZATTII Lundell, sp. nov.

Arbor. Folia subsessilia, coriacea, rugosa, oblanceolata, 3--5.8 cm. longa, 6--14 mm. lata, apice acutiuscula vel rotundata in aciculum 3 mm. longum desinentia, basi longe attenuata, decurrentia, revoluta. Inflorescentiae terminales, abbreviate racemosae, foliis breviores; pedicellis 6--8 mm. longis. Sepala glabra, suborbicularia, 3--4 mm. longa, minute erosa. Corolla ca. 9.5 mm. longa, ad mediam partem gamopetala, lobis oblongo-obovatis, ca. 3.8 mm. latis, apice rotundatis; staminodiis ovatis, ca. 3.1 mm. longis, 2.1 mm. latis. Stamina libera, filamentis intus ad corollae basin applicatis.

A tree; branchlets striate, green, loosely pubescent with branched hairs; leaves coriaceous, oblanceolate, 3 to 5.8 cm. long, 6 to 14 mm. wide, apex acutish or rounded, spine-tipped, the spine about 3 mm. long, base long-attenuate, decurrent into a short stipe, revolute, rugose, glabrous above except for a few hairs along the costa, pubescent beneath with scattered branched hairs and punctate, costa impressed above, prominent beneath, lateral nerves inconspicuous; inflorescence terminal, short-racemose, shorter than the leaves, 5- to 12-flowered, loosely pubescent; pedicels 6 to 8 mm. long, each subtended at base by a lanceolate, acuminate-cuspidate bract 2 to 3 mm. long; sepals glabrous, suborbicular, 3 to 4 mm. long, minutely erose; corolla infundibuliform, orange-red, minutely puberulous inside at base with gland-tipped hairs, about 9.5 mm. long, lobed to the middle, the lobes oblong-obovate, about 3.8 mm. wide, rounded at apex; staminodia ovate, about 3.1 mm. long, 2.1 mm. wide, obtuse; stamens about 7 mm. long (including portion adnate to corolla); filaments free, adnate to base of corolla, narrowed above, flattened, minutely puberulous at base with gland-tipped hairs; style short, about 1 mm. long.

Type in the Herbarium of the University of Michigan, C. Gonzatti 5326, collected near Dominguillo, District of Quicatlan, Oaxaca, Mexico, on April 16, 1937, at an altitude of 700 meters. The species is noteworthy for its narrow oblanceolate rugose leaves.

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(a) Contribution from the Herbarium of the University of Michigan.